CLAIMS

1. An integrated communications system comprising:
a substrate;
a receiver disposed on the substrate for converting a received signal to an IF signal;
a digital IF demodulator disposed on the substrate and coupled to the receiver for converting the IF signal to a demodulated baseband signal; and
a transmitter disposed on the substrate operating in cooperation with the receiver to establish a two way communications path.

2. An integrated receiver system comprising:
a substrate;
a receiver disposed on the substrate for converting a received signal to an IF signal; and
a digital IF demodulator disposed on the substrate for converting the IF signal to a demodulated baseband signal.

3. An integrated digital IF demodulator comprising:
a substrate;
an analog VGA disposed on the substrate coupled to an analog IF input;
an ADC disposed on the substrate having its input coupled to an output of the analog VGA;
an AGC Peak detection circuit disposed on the substrate having its input coupled to an output of the ADC;
a first DAC disposed on the substrate having its input coupled to an output of the AGC Peak detection circuit and an output of the first DAC coupled to the control signal input of the analog VGA;

a VIF demodulator and Nyquist filter disposed on the substrate having an input coupled to the output of the AGC peak detection circuit;

an AFT circuit disposed on the substrate having an input coupled to the VIF demodulator and Nyquist filter input;

a second DAC disposed on the substrate having an input coupled to an output of the AFT circuit;

a low pass filter disposed on the substrate having an input coupled to a second output of the VIF demodulator and Nyquist filter;

a sync detection and AGC circuit disposed on the substrate having an input coupled to an output of the low pass filter;

a digital VGA disposed on the substrate having an input coupled to the second output of the VIF demodulator and Nyquist filter and a control signal input coupled to an output of the sync detection and AGC circuit;

a third digital to analog converter disposed on the substrate having an input coupled to an output of the digital VGA;

a band pass filter disposed on the substrate having an input coupled to the second output of the VIF demodulator and Nyquist filter; and

a FM demodulator disposed on the substrate having an input coupled to an output of the band pass filter; and

a fourth DAC disposed on the substrate having an input coupled to an output of the FM demodulator.

4. A method of converting a received analog IF modulated signal into a plurality of analog signals, comprising:

converting the received analog IF modulated signal to an input digital signal;

VIF demodulating and Nyquist filtering the input digital signal into a first digital filtered signal, a second digital filtered signal, a third digital filtered signal, and a fourth digital filtered signal;

digitally converting the first digital filtered signal to a first analog output signal;

digitally converting the second digital filtered signal to a low pass filtered digital signal;

digitally converting the third digital filtered signal to a band pass filtered digital signal;

digitally converting the fourth digital filtered signal to a high pass filtered digital signal;

digitally converting the lowpass filtered digital signal to a second analog output signal;

digitally converting the bandpass filtered digital signal to a third analog output signal; and

digitally converting the highpass filtered digital signal to a fourth analog output signal.

5. The method of claim 4, wherein the digitally converting the bandpass filtered digital signal includes FM demodulating the bandpass filtered digital signal into a demodulated bandpass filtered digital signal and digitally converting the demodulated bandpass filtered digital signal into the third analog output signal.

6. The method of claim 4, wherein the digital converting the second digital filtered signal, the digital converting the third digital filtered signal, and the digital converting the fourth digital filtered signal, are respectively performed by programmable digital signal processing filtering.

7. The method of claim 4, wherein the first analog output signal is provided for automatic gain control tuning.

8. The method of claim 4, wherein the second analog output signal is provided for a video signal.

9. The method of claim 4, wherein the third analog output signal is provided for a first sound signal.

10. The method of claim 4, wherein the fourth analog output signal is provided for a second sound signal.